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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,017	02/25/2005	Eva Wagner	266138US0PCT	4210

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EXAMINER	
GILLESPIE, BENJAMIN	

ART UNIT	PAPER NUMBER
1711	

NOTIFICATION DATE	DELIVERY MODE
07/18/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/526,017	WAGNER ET AL.	
	Examiner	Art Unit	
	Benjamin J. Gillespie	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3-5, 7-18 rejected under 35 U.S.C. 102(b) as being anticipated by Bradford et al (2003/0083397 A1) and as further disclosed in DE 196 09 617. Bradford et al teach a coating composition comprising polyurethane that is the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic acids, and c) a compound corresponding to that of claim 7, which has a molecular weight less than 750 g/mol (Paragraphs 25, 37, 44, 63, and 69). Regarding the polyisocyanate, Bradford et al teach that it consists of diisocyanates, such as isophorone diisocyanate, as well as allophanate-modified polyisocyanates (Paragraphs 64 and 67).

2. The coating composition further comprises photo and thermal initiators, and said coating composition is applied to a wooden, metal, or plastic substrate, which may also consist of an automotive part. The coating is then exposed to radiation in an inert environment and heated to a temperature between 120°F and 350°F (Paragraphs 94, 96, 98, 104, 109, 111, 119, 124).

3. Regarding the component c), Bradford et al teach that the polyisocyanate may be an adduct of a polyisocyanate and oxazolidine which contains an isocyanate-reactive functional group, such as those described in German patent application DE 196 09 617. DE 196 09 617 teaches on page three, that oxazolidines consist of compound IV, which has a capped amino-

groups, and R^8 and R^9 consist of C_1-C_{10} aliphatic groups and R^7 consists of amino, mercapto and hydroxyl groups (Page 3 lines 35-50).

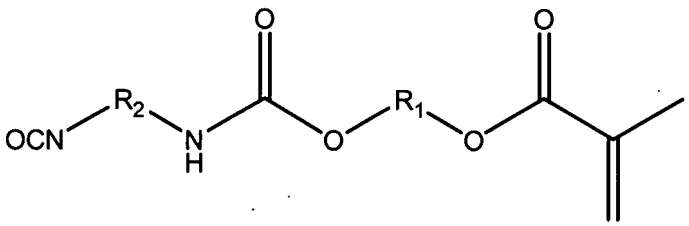
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

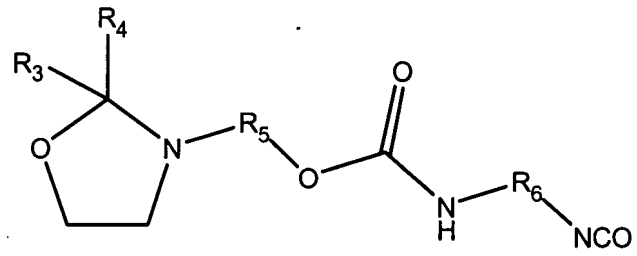
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al (2003/0083397 A1) and as further disclosed in DE 196 09 617. Aforementioned, Bradford et al teach a coating composition comprising a polyurethane that is the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic acids, and c) a compound corresponding to that of claim 7, which has a molecular weight less than 750 g/mol.

5. Regarding claim 8, although there is no explicit teaching of this polymer architecture, the polyurethane it would have been obvious to arrive at this structure. Bradford et al teach that a) diisocyanate and b) hydroxylalkyl(meth)acrylate are reacted together (Paragraph 45). This results in a urethane compound having the structure (A):



6. Wherein R_1, and R_2, are based on the type of hydroxylalkyl(meth)acrylate, and diisocyanate respectively. However, Bradford et al never specifies which polyisocyanate is to be used for the formation of compound (A). Paragraph 69 explains that the polyisocyanate available for the invention also includes compounds that have been modified with an oxazolidine that have a capped amino group, reflected by the compound having the structure (B):



7. Wherein R_3, R_4, and R_5, depend on the specific type of oxzaolidine and R_7 depends on the type diisocyanate. Therefore by substituting diisocyanate with an oxazolidine-modified polyisocyanate, the structure of claim 8 is obtained. Furthermore it is prima facie obvious to combine individually old ingredients for their known function, i.e. it is obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244. Similarly, it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. *In re Kerkhoven* 205 USPQ 1069.

8. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al US 2003/0083397 and as further disclosed in DE 196 09 617 in view of Arora et al ('154). As previously discussed Bradford et al teach a coating composition comprising water dispersible polyurethane, which is the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic acids, and c) a compound corresponding to that of claim 7 (Paragraph 99).

9. Arora et al teaches a polyurethane coating system, which is the reaction product of polyisocyanate and isocyanate-reactive compounds including an amino-capped group (Abstract). Furthermore, Arora et al teaches the active dispersing group consist of a base neutralized acid-functional compound having isocyanate-reactive hydrogens, and exists in amounts of 25 mol% as seen in examples III-VI (Col 3 lines 1-3, 22-23, 29-31, and 31-34). It is important to note that the molar amounts in Arora et al are applicable to Bradford et al because the dispersion groups provide the same function. Therefore it would have been obvious to one skilled in the art at the time of invention to include in Bradford et al the dispersing group of Arora et al based on both references disclosing water dispersible polyurethanes, having analogous compositions and it is prima facie obviousness to add a known ingredient for its known function, i.e. water dispersive groups in a known water dispersible polyurethane polymer; in re Linder 173 USPQ 356; in re Dial et al 140 USPQ 244.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradford et al US 2003/0083397 and as further disclosed in DE 196 09 617 in view of Bruchmann et al ('569). Aforementioned, Bradford et al teach a polyurethane coating comprising the reaction product of a) polyisocyanate, b) hydroxyl-functional (meth)acrylate or a hydroxylalkyl ester of one or more ethylenically unsaturated carboxylic acids, and c) an amino-capped isocyanate-reactive oxazolidine compound. However there is no mention of the amino-capped groups listed in claim 6.

11. Bruchmann et al also teach a polyurethane coating comprising polyisocyanate and amino-capped isocyanate-reactive compounds including oxazolidine (Col 1 lines 5-11, 47-50, col 2 lines 53-67, col 3 lines 10-15, col 6 lines 63-67, col 7 lines 28-35). Furthermore Bruchmann et al

teach that compounds analogous to the amino-capped isocyanate-reactive compound consist of aldimines and ketimines (Col 4 lines 23-28). Therefore it would have been obvious to one skilled in the art at the time of invention to include aldimine and ketimine groups, as taught by Bruchmann et al because the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. In re Ruff 118 USPQ 343 (CCPA 1958).

Response to Arguments

12. Applicants' arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection. Please note that due to an inadvertent oversight, the office action dated 11/30/2006 originally stated Bradford et al did not teach amino-capped isocyanate-reactive compounds. However, as previously stated in the rejection above, the claimed compounds are in fact disclosed. It is not seen that this constitutes a new issue as Bradford et al did in fact set forth the necessary limitations to anticipated the claims, and by the previous office action, applicants were made aware of this reference and had ample opportunity to address the reference.

13. Regarding applicants' remarks concerning the claimed dispersive groups, as previously mentioned the polyurethane of Bradford et al is clearly disclosed to be water dispersible, and Arora et al, which is analogous art, teaches that urethanes are rendered water dispersible through the inclusion of acid functional compounds, preferably 2,2-di(hydroxymethyl)propionic acid (Arora et al: col 7 lines 43-45).

14. Finally, concerning applicants' remarks that Bruchmann et al is not a relevant secondary teaching, it is drawn to polyurethane coatings that have an analogous composition to Bradford et al, and specifically the language of column 4 lines 26-28, which consists of "Apart from the compounds A, it is also possible to use other reactive components... e.g. Aldimines, ketimines". This specific teaching that Aldimines and ketimines are synonymous with the amino-capped isocyanate-reactive compound is a clear motivation to include said compounds into Bradford et al.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-

272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie

RABON SERGENT
PRIMARY EXAMINER